

REMARKS

This application has been reviewed in light of the Office Action dated August 9, 2005.

Claims 21-40 are now presented for examination; claims 1-20 were previously cancelled without prejudice. Claims 21, 23, 24, 29, 35 and 36 have been amended to more particularly point out and distinctly claim the subject matter regarded as the invention. Claims 21 and 29 are independent. Favorable review is respectfully requested.

Claims 23, 24, 35 and 36 have been amended to make editorial corrections (e.g. replace "said the" with -the--).

Claims 21 and 29 were objected to, the Examiner stating that "means for disposing said DUT within a scanning chamber" was not found in the specification. The claims have been revised to recite that the automated test apparatus is connected to the DUT while the DUT is disposed within the scanning chamber. This recitation is clearly supported in the specification on page 7, third full paragraph (particularly in the first six lines thereof), and Figure 1. The Examiner also required clarification regarding "means for repeatedly applying said predefined stimulus to said semiconductor device". The claims have been revised to recite a means for simultaneously

scanning said semiconductor device (DUT) with said laser scanning microscope (LSM) while repeatedly applying the predefined stimulus to the DUT and comparing responses therefrom against the predefined expected responses using the ATE. It is believed that this revision makes it clear that the ATE performs the application of the stimulus to the DUT, and compares the responses therefrom against the expected responses.

Claims 21-40 were rejected under 35 U.S.C. § 102(e) as being anticipated by Perdu et al. (U.S. Pat. Appln. Pub. 2005/0006602). The applicants respectfully submit that the independent claims 21 and 29, as amended, are patentably distinct from the art cited by the Examiner, for the following reasons.

The present invention, as defined in claim 21, is directed to a system for critical parameter analysis (CPA) of a semiconductor device (DUT); the system includes a laser scanning microscope (LSM) and automated test apparatus (ATE) for providing predefined stimulus to the

semiconductor device (DUT) and for comparing responses from the semiconductor device (DUT) against a set of predefined expected responses, and for generating a short output pulse when a difference is detected between responses from said semiconductor device (DUT) and said predefined expected responses. It is a feature of the present invention that the automated test system is configured to repeatedly "short-cycle" the test (that is, repeatedly provide the stimulus from a starting point up to a point of failure) when such failure is detected. Claim 29, directed to a method for critical parameter analysis of a DUT, similarly recites this feature.

The Examiner points to paragraph 24 of Perdu et al. (beginning on page 2 and ending on page 3) for a teaching of the above-noted feature of the present invention. As understood by the applicants, the tester of Perdu et al. applies a test vector to a DUT synchronously with a pulsed laser, so that the laser stimulates a location on the DUT only when a particular test vector is applied. However, this paragraph does not offer any teaching regarding cycling of the tester after a failure is detected, and in particular does not suggest that a test sequence be shortened when a failure is detected. Paragraphs 44-46 of Perdu et al. (page 4) describe in more detail the application of test vectors, and the timing thereof, when a failure is observed in the DUT. In the timing diagram of Perdu et al. Figures 5d(1) and 5(d)2, a failure evidently occurs in the second quarter of the test sequence, because the result is 'fail' when the laser is on for the entire first half of the sequence but 'pass' when the laser is on for only the first quarter of the sequence. It is noteworthy that the entire test sequence is repeated (Figures 5d(3) and 5d(4)) even after this observation is made. It follows that there is no "short-cycling" of the test sequence in Perdu et al., even after a failure is detected. If the system of Perdu et al. included short-cycling, the test sequences in Figures 5d(2) through 5d(5) would be half the length of the sequence in Figure 5d(1).

Accordingly, it is submitted that the above-noted feature, at least, of the present invention is neither taught nor suggested in Perdu et al., so that the present invention is not anticipated by that reference.

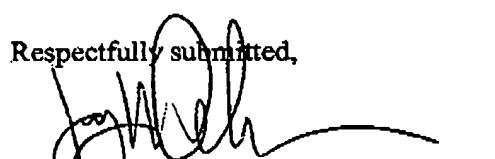
The other claims in this application are each dependent directly or indirectly from one or the other of the independent claims discussed above and are therefore believed to be patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect

of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the applicants respectfully request favorable reconsideration and early passage to issue of the present application.

The applicants' undersigned attorney may be reached by telephone at (845) 894-3667. All correspondence should continue to be directed to the below listed address.

Respectfully submitted,



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